WEST Search History

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DATE: Sunday, February 05, 2006

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L115	L114 and l78	3
☐	L114	l77 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	4
☐	L113	l82 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L112	l84 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L111	l87 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L110	l103 and (((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or orthogonal$2 or perpendicular$2) with (vertical$2 or longitud$6 or parallel) with (resistiv$5)) same (ratio))	3
☐	L109	l108 and ((anisotropy or anisotropic$4) with (ratio))	3
☐	L108	l107 and (((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (resistiv$5)) same (ratio))	4
☐	L107	l106 and ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3))	6
☐	L106	l103 and ((horizontal$2 or transvers$4 or parallel) with (vertical$2 or longitud$6 or orthogonal$2 or perpendicular$2) with (resistiv$5))	8
☐	L105	l103 not l100	1
☐	L104	L103 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L103	L102 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or	15

		vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	
☐	L102	(324/303-377.ccls.)	14287
☐	L101	L100 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L100	L99 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	14
☐	L99	(324/303-367.ccls.)	13844
☐	L98	L97 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L97	L96 and ((determin$4 or calculat$4 or measur$4) with (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))))	16
☐	L96	L91 and (determin$4 or calculat$4 or measur$4)	30
☐	L95	l92 and ((anisotropy or anisotropic$4) with (ratio))	4
☐	L94	l92 and (anisotropy or anisotropic$4)	10
☐	L93	L92 and ((resistiv$5) with (ratio) with (permeability or permeabl$3))	2
☐	L92	l91 and ((log$4) with (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain))	25
☐	L91	L87 and (((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3)) same ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5)))	30
☐	L90	L89 and ((resistiv$5) with (permeability or permeabl$3) with (ratio))	2
☐	L89	L87 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (ratio))	22
☐	L88	L86 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (ratio))	86
☐	L87	L86 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (permeability or permeabl$3))	75
☐	L86	L84 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))	412
☐	L85	L78 and ((horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2) with (resistiv$5))	1857
☐	L84	L83 and (permeability or permeabl$3)	2878
☐	L83	L82 and (resistiv$5)	16608
☐	L82	L78 and (horizontal$2 or vertical$2 or transvers$4 or longitud$6 or parallel or orthogonal$2 or perpendicular$2)	121333
☐	L81	L80 and (permeability or permeabl$3)	2878
☐	L80	L79 and (resistiv$5)	16608

☐	L79	L78 and (horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3)	121368
☐	L78	L77 and (log$4)	191116
☐	L77	(formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	3137478
☐	L76	L75 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4
☐	L75	L74 and (ratio)	41
☐	L74	l53 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5)) same ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3)))	69
☐	L73	L72 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (resist$5) with (ratio))	1
☐	L72	L71 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (permeability or permeabl$3) with (ratio))	2
☐	L71	5463549	15
☐	L70	L57 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj4 (permeability or permeabl$3) with (ratio))	4
☐	L69	L68 and (laminat$4)	0
☐	L68	L67 and (estima$6 or approximat$6)	1
☐	L67	L66 and (coarse or fine or water or "h2O" or "h.sub.2O")	1
☐	L66	L63 and (Waxman or Smits or Thomas or Stieber)	1
☐	L65	L63 and (bulk or content)	0
☐	L64	L63 and ((magnetic adj resonance) or MRI or NMR)	0
☐	L63	L53 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L62	L55 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L61	L59 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj3 (resistiv$5)))	1
☐	L60	L59 and (((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj2 (permeability or permeabl$3)) with ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) adj (resistiv$5)))	0

☐	L59	L58 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3) with (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain))	5
☐	L58	L57 and (logging)	5
☐	L57	L55 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3) with (ratio))	8
☐	L56	L55 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4
☐	L55	L54 and (ratio)	36
☐	L54	L53 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3))	61
☐	L53	L52 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5))	957
☐	L52	L51 and (resistiv$5)	9014
☐	L51	L50 and (permeability or permeabl$3)	80606
☐	L50	L49 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	1236599
☐	L49	(horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3)	7657216
☐	L48	L1 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	706414
☐	L47	L13 and (permeability or permeabl$3)	6
☐	L46	5656930 and (permeability or permeabl$3)	16
☐	L45	US20040140801A1	1
☐	L44	L43 and (permeability or permeabl$3)	5
☐	L43	3479581	11
☐	L42	L37 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	5
☐	L41	L40 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3) with (ratio))	4
☐	L40	L39 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5) with (permeability or permeabl$3))	36
☐	L39	L38 and (ratio)	129
☐	L38	L37 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or	204

		"petro physical$3" or sand or clay or shale or grain)	
☐	L37	L36 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (resistiv$5))	369
☐	L36	L35 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2) with (permeability or permeabl$3))	1760
☐	L35	L34 and (permeability or permeabl$3)	14755
☐	L34	L33 and (resistiv$5)	172809
☐	L33	(horizontal$3 or vertical$3 or transvers$5 or longitud$4 or parallel or perpendicular$2 or longitudinal$2)	7542602
☐	L32	(horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or perpendicular$2)	7546527
		DB=PGPB,USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L31	20020101235	2
		DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L30	6005389 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3) with (resistiv$5))	4
☐	L29	L28 not L26	3
☐	L28	L27 and (Waxman or Smits or Thomas or Stieber)	13
☐	L27	L22 and ((magnetic adj resonance) or MRI or NMR)	68
☐	L26	L25 and ((magnetic adj resonance) or MRI or NMR)	10
☐	L25	L24 and (coarse or fine)	22
☐	L24	L23 and (Waxman or Smits or Thomas or Stieber)	33
☐	L23	L22 and (bulk or content)	248
☐	L22	L21 and (estima$6 or approximat$6)	361
☐	L21	L20 and (induct$5)	396
☐	L20	L19 and (model$4 or simulat$6)	854
☐	L19	L18 and (density or porosity or permeability or bvi or irreducible or bound)	2061
☐	L18	L17 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	3269
☐	L17	L16 and (water or fluid$4 or liquid$4 or "h20" or oil)	6129
☐	L16	((horizontal$3 or vertical$3 or transvers$5 or longitud$7 or parallel or orthogonal$3 or perpendicular$3) with (resistiv$5))	18332
☐	L15	L14 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7) with (resistiv$5))	4
☐	L14	6255819	18
☐	L13	L12 and ((magnetic adj resonance) or MRI or NMR)	10
☐	L12	L11 and ((horizontal$3 or vertical$3 or transvers$5 or longitud$7) with (resistiv$5))	12
☐	L11	L10 and (bulk or content)	201
☐	L10	L9 and (Waxman or Smits or Thomas or Stieber)	213

☐	L9	L8 and (model$4 or simulat$6)	1507
☐	L8	L7 and (coarse or fine)	2450
☐	L7	L6 and (density or porosity or permeability or bvi or irreducible or bound)	5446
☐	L6	L5 and (estima$6 or approximat$6)	6488
☐	L5	L4 and (induct$5)	8396
☐	L4	L3 and (formation or wellbore or "well bore" or well-bore or borehole or bore-hole or "bore hole" or earth or petrophysical$3 or petro-physical$3 or "petro physical$3" or sand or clay or shale or grain)	31843
☐	L3	L2 and (water or fluid$4 or liquid$4 or "h20" or oil)	53313
☐	L2	L1 and (resistiv$5)	98763
☐	L1	(horizontal$3 or vertical$3 or transvers$5 or longitud$7)	4326745

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Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 4661234 A

L42: Entry 1 of 5 File: USPT Apr 28, 1987

US-PAT-NO: 4661234
DOCUMENT-IDENTIFIER: US 4661234 A

TITLE: Air-fuel ratio sensor and apparatus using the same

DATE-ISSUED: April 28, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takahashi; Hideaki	Aichi			JP
Kondo; Haruyoshi	Aichi			JP
Takeuchi; Takashi	Aichi			JP
Hayakawa; Kiyoharu	Aichi			JP

US-CL-CURRENT: 204/406; 204/412, 204/425, 204/426, 338/34

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 2. Document ID: US 3834943 A

L42: Entry 2 of 5 File: USOC Sep 10, 1974

US-PAT-NO: 3834943
DOCUMENT-IDENTIFIER: US 3834943 A

TITLE: ELECTROLYTE-ELECTRODE UNIT FOR SOLID-ELECTROLYTE FUEL CELL AND PROCESS FOR THE MANUFACTURE THEREOF

DATE-ISSUED: September 10, 1974

INVENTOR-NAME: TANNENBERGER H; VAN DEN BERGHE P

US-CL-CURRENT: 429/33, 429/41

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 3. Document ID: US 3479581 A

L42: Entry 3 of 5 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 3037105 A

L42: Entry 4 of 5 File: USOC May 29, 1962

US-PAT-NO: 3037105
DOCUMENT-IDENTIFIER: US 3037105 A

TITLE: Methods and apparatus for the induction welding of tubing

DATE-ISSUED: May 29, 1962

INVENTOR-NAME: FRED KOHLER

US-CL-CURRENT: 219/612; 219/613

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 5. Document ID: US 2784349 A

L42: Entry 5 of 5 File: USOC Mar 5, 1957

US-PAT-NO: 2784349
DOCUMENT-IDENTIFIER: US 2784349 A

TITLE: Electric arc welding

DATE-ISSUED: March 5, 1957

INVENTOR-NAME: ANDERSON NELSON E

US-CL-CURRENT: 315/176; 123/606, 219/130.4, 315/257

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$3	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L37 AND ((HORIZONTAL$3 OR VERTICAL$3 OR TRANSVERS$5 OR LONGITUD$4 OR PARALLEL OR PERPENDICULAR$2 OR LONGITUDINAL$2) WITH (RESISTIV$5) WITH (PERMEABILITY OR PERMEABL$3) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	5

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☐ 1. Document ID: US 6686736 B2

L72: Entry 1 of 2 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. D.

☐ 2. Document ID: US 5463549 A

L72: Entry 2 of 2 File: USPT Oct 31, 1995

US-PAT-NO: 5463549
DOCUMENT-IDENTIFIER: US 5463549 A

TITLE: Method and apparatus for determining permeability of subsurface formations

DATE-ISSUED: October 31, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dussan V.; Elizabeth B.	Ridgefield	CT		
Auzerais; Francois M.	Ridgefield	CT		
Anderson; Barbara I.	Brookfield Center	CT		

US-CL-CURRENT: 702/7; 324/339, 324/366, 702/12, 702/9

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
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RATIO	2374601
RATIOS	451530
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HORIZONTALA	32
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(L71 AND ((HORIZONTAL$3 OR VERTICAL$3 OR TRANSVERS$5 OR LONGITUD$4 OR PARALLEL OR PERPENDICULAR$2 OR LONGITUDINAL$2) ADJ4 (PERMEABILITY OR PERMEABL$3) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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L72: Entry 1 of 2 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

CLAIMS:

What is claimed is:

1. A method of petrophysical evaluation of a formation comprising: (a) using values of horizontal and vertical resistivities of the formation and deriving thereform an estimate of water content thereof; (b) using NMR measurements of the formation and deriving therefrom an estimate of bulk irreducible water content of the formation; and (c) determining a parameter of interest of the formation by comparing the estimate of water content from step (a) to the estimate of bulk irreducible water content of the formation from step (b).

2. The method of claim 1 wherein deriving said estimate of water content further comprises: (i) inverting said values of horizontal and vertical resistivities of the formation using a petrophysical model to give a first estimate of fractional volume of laminated shale in the formation; (ii) obtaining measurements of density and/or neutron porosity of the formation and using a volumetric model for deriving therefrom a second estimate of fractional volume of laminated shale; and (iii) if said second estimate of fractional shale volume is greater than said first estimate of fractional shale volume, inverting said horizontal and vertical resistivities using a petrophysical model including said second estimate of fractional shale volume and obtaining therefrom a bulk water content of the formation.

3. The method of claim 1 further comprising determining a vertical and horizontal resistivity of an anisotropic sand component of the formation and determining therefrom and from at least one additional measurement selected from the group consisting of; (i) NMR measurements of the formation, and, (ii) a bulk permeability of the sand component, a parameter of interest of a coarse and a fine grain portion of the sand component.

4. The method of claim 1 further comprising using a transverse induction

logging tool for obtaining said values of horizontal and vertical resistivities of the formation.

5. The method of claim 1 further comprising using an induction logging tool for obtaining said values of horizontal resistivities and a focused current logging tool for obtaining said values of vertical resistivities.

6. The method of claim 2 wherein the petrophysical model further comprises a laminated shale component and a sand component.

7. The method of claim 2 wherein using said volumetric model further comprises using at least one of: (i) the Thomas-Stieber model, and, (ii) the Waxman-Smits model.

8. The method of claim 3 wherein said parameter of interest is selected form the group consisting of: (A) a fractional volume of said coarse grain component, (B) a fractional volume of said fine grain component, (C) a water saturation of said coarse grain component, (I)) a water saturation of said fine grain component, (E) a permeability of said coarse grain component, and, (F) a permeability of said fine grain component.

9. The method of claim 3 wherein the at least one additional measurement comprises an NMR measurement, and deriving the parameter of interest fin-ther comprises deriving a distribution of relaxation tines from said NMR measurements and obtaining therefrom a distribution of components of said anisotropic sand.

10. The method of claim 3 wherein the at least one additional measurement comprises a bulk permeability measurement of the anisotropic sand and deriving the parameter of interest further comprises: A. obtaining a family of possible distributions of volume fractions and bulk irreducible water content (DVI) for the coarse and fine sand components; B. determining horizontal, vertical and bulk permeability values associated with said family of possible distributions; and C. selecting from said family of possible distributions the one distribution that has a determined bulk permeability substantially equal to the measured bulk permeability.

11. The method of claim 10 wherein said bulk permeability is obtained from the group consisting of (I) NMR diffusion measurements, (U) a formation testing instrument, (III) a pressure buildup test, and, (IV) a pressure drawdown test.

12. The method of claim 10 wherein determining the horizontal and vertical permeability values associated with said family of distributions for the coarse and fine sand components further comprises using the Coates-Timur equation ##EQU21##

where k is a permeability, .phi. is a porosity, BVI is the bound volume irreducible, and a, b, and C are fitting parameters.

13. The method of claim 10 wherein determining horizontal, vertical and bulk permeability values further comprises using a relationship of the form

k=C.phi..sup.a T.sup.b

where k.sub.e is a permeability, .phi. is a porosity and T is a NMR relaxation time, and a, b, and C are fitting parameters.

14. The method of claim 13 wherein T is a longitudinal NMR relaxation time.

15. The method of claim 2 wherein the petrophysical model in (i) comprises at least one of (A) an isotropic sand component, and, (B) an anisotropic sand component.

16. The method of claim 10 wherein the coarse sand portion of the selected distribution is characterized by an irreducible water saturation less than an irreducible water saturation of the fine grain sand portion of the selected distribution.

17. The method of claim 1 wherein deriving the parameter of interest further comprises specifying a formation factor for a constituent of the formation.

18. The method of claim 10 wherein the determined bulk permeability is a spherical permeability related to the horizontal and vertical permeability values by a relationship of the form ##EQU22##

19. The method of claim 12 further comprising specifying the parameters a, b and C.

20. The method of claim 13 further comprising specifying the parameters a, b, and C.

21. A method of petrophysical evaluation of a formation comprising: (a) inverting values of horizontal and vertical resistivities of the formation using a petrophysical model and obtaining an estimate of water content of said formation; (b) using NMR measurements of the formation and deriving therefrom an estimate of bulk irreducible water content of the formation; and (c) determining from said bulk irreducible water content and said water content obtained in (a), a permeability of the formation.

22. The method of claim 21 wherein obtaining said estimate of water content further comprises determining a vertical and horizontal resistivity of an anisotropic sand component of the formation, and determining therefrom and from at least one additional measurement selected from the group consisting of: (i) NMR measurements of the formation, and, (ii) a bulk permeability of the sand component, a parameter of interest of a coarse and a fine grain portion of the sand component.

23. The method of claim 22 wherein said parameter of interest is selected from the group consisting of: (A) a fractional volume of said coarse grain component, (B) a fractional volume of said fine grain component, (C) a water saturation of said coarse grain component, (I)) a water saturation of said fine grain component.

24. The method of claim 22 wherein the at least one additional measurement comprises an NMR measurement, and deriving the parameter of interest further comprises deriving a distribution of relaxation times from said NMR measurements and obtaining therefrom a distribution of components of said anisotropic sand.

25. The method of claim 22 wherein the at least one additional measurement comprises a bulk permeability measurement of the anisotropic sand and deriving the parameter of interest further comprises: A. obtaining a family of possible distributions of volume fractions and bulk irreducible water content (BVI) for

the coarse and fine sand components; B. determining horizontal, vertical and bulk permeability values associated with said family of possible distributions; and C. selecting from said family of possible distributions the one distribution that has a determined bulk permeability substantially equal to the measured bulk permeability.

26. The method of claim 25 wherein said bulk permeability is obtained from the group consisting of (I) NMR diffusion measurements, (II) a formation testing instrument, (III) a pressure buildup test, and, (IV) a pressure drawdown test.

27. The method of claim 26 wherein determining the horizontal and vertical permeability values associated with said family of distributions for the coarse and fine sand components further comprises using the Coates-Timur equation ##EQU23##

where k is a permeability, .phi. is a porosity, BVI is the bound volume irreducible, and a, b, and C are fitting parameters.

28. The method of claim 26 wherein determining horizontal, vertical and bulk permeability values further comprises using a relationship of the form

k=C.phi..sup.a T.sup.b

where k.sub.e is a permeability, .phi. is a porosity and T is a NMR relaxation time, and a, b, and C are fitting parameters.

29. The method of claim 28 wherein T is a longitudinal NMR relaxation time.

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First Hit

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Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 6686736 B2

L73: Entry 1 of 1 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
RATIO	2374601
RATIOS	451530
HORIZONTAL$3	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1

HORIZONTALAEB	1
HORIZONTALAI	2
HORIZONTALAIR	2
(L72 AND ((HORIZONTAL$3 OR VERTICAL$3 OR TRANSVERS$5 OR LONGITUD$4 OR PARALLEL OR PERPENDICULAR$2 OR LONGITUDINAL$2) ADJ4 (RESIST$5) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1

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Hit List

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 4661234 A

L76: Entry 1 of 4 File: USPT Apr 28, 1987

US-PAT-NO: 4661234
DOCUMENT-IDENTIFIER: US 4661234 A

TITLE: Air-fuel ratio sensor and apparatus using the same

DATE-ISSUED: April 28, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Takahashi; Hideaki	Aichi			JP
Kondo; Haruyoshi	Aichi			JP
Takeuchi; Takashi	Aichi			JP
Hayakawa; Kiyoharu	Aichi			JP

US-CL-CURRENT: 204/406; 204/412, 204/425, 204/426, 338/34

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 2. Document ID: US 3834943 A

L76: Entry 2 of 4 File: USOC Sep 10, 1974

US-PAT-NO: 3834943
DOCUMENT-IDENTIFIER: US 3834943 A

TITLE: ELECTROLYTE-ELECTRODE UNIT FOR SOLID-ELECTROLYTE FUEL CELL AND PROCESS FOR THE MANUFACTURE THEREOF

DATE-ISSUED: September 10, 1974

INVENTOR-NAME: TANNENBERGER H; VAN DEN BERGHE P

US-CL-CURRENT: 429/33, 429/41

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 3. Document ID: US 3479581 A

L76: Entry 3 of 4 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 2784349 A

L76: Entry 4 of 4 File: USOC Mar 5, 1957

US-PAT-NO: 2784349
DOCUMENT-IDENTIFIER: US 2784349 A

TITLE: Electric arc welding

DATE-ISSUED: March 5, 1957

INVENTOR-NAME: ANDERSON NELSON E

US-CL-CURRENT: 315/176; 123/606, 219/130.4, 315/257

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$3	0
HORIZONTAL	2107341
HORIZONTALA	32

HORIZONTALAD	1
(L75 AND ((HORIZONTAL$3 OR VERTICAL$3 OR TRANSVERS$5 OR LONGITUD$4 OR PARALLEL OR PERPENDICULAR$2 OR LONGITUDINAL$2) WITH (RESISTIV$5) WITH (PERMEABILITY OR PERMEABL$3) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 5963117 A

L77: Entry 1 of 3 File: USPT Oct 5, 1999

US-PAT-NO: 5963117
DOCUMENT-IDENTIFIER: US 5963117 A

TITLE: Opposed magnet-type magnetic circuit assembly with permanent magnets

DATE-ISSUED: October 5, 1999

Awards Saturation

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ohashi; Ken	Fukui-ken			JP
Yoneda; Yuhito	Fukui-ken			JP
Miyata; Koji	Fukui-ken			JP
Inoue; Yuji	Tokyo			JP

N/A

US-CL-CURRENT: 335/306; 324/319, 335/296, 335/297

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 2. Document ID: US 5864275 A

L77: Entry 2 of 3 File: USPT Jan 26, 1999

US-PAT-NO: 5864275
DOCUMENT-IDENTIFIER: US 5864275 A

Awards Saturation N/A

TITLE: Opposed magnet-type magnetic circuit assembly with permanent magnets

DATE-ISSUED: January 26, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ohashi; Ken	Fukui-ken			JP
Yoneda; Yuhito	Fukui-ken			JP
Miyata; Koji	Fukui-ken			JP
Inoue; Yuji	Tokyo			JP

US-CL-CURRENT: 335/306; 324/319, 335/296, 335/297, 335/298

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 3. Document ID: US 3123747 A

L77: Entry 3 of 3 File: USOC Mar 3, 1964

US-PAT-NO: 3123747
DOCUMENT-IDENTIFIER: US 3123747 A

TITLE: OCR SCANNED DOCUMENT

DATE-ISSUED: March 3, 1964

INVENTOR-NAME: Name not available

US-CL-CURRENT: 335/210; 310/65, 335/297, 336/234, 336/60, D06/429

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
TOTAL$2	0
TOTAL	2157319
TOTALA	21
TOTALAC	1
TOTALAL	1
TOTALAN	3
TOTALAP	1
TOTALAT	3
TOTALAV	1
TOTALAY	2
TOTALB	5
(L71 AND ((TOTAL$2 OR COMPLET$3 OR FULL$2 OR ENTIRE$2) WITH (SATURAT$4))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 6603313 B1

L90: Entry 1 of 2 File: USPT Aug 5, 2003

US-PAT-NO: 6603313
DOCUMENT-IDENTIFIER: US 6603313 B1

TITLE: Remote reservoir resistivity mapping

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Srnka; Leonard J.	Houston	TX		

US-CL-CURRENT: 324/354; 324/359, 702/5

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D.

☐ 2. Document ID: US 3479581 A

L90: Entry 2 of 2 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents

PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
RESISTIV$5	0
RESISTIV	752
RESISTIVA	8
RESISTIVANCE	1
RESISTIVAY	1
RESISTIVA5	1
(L89 AND ((RESISTIV$5) WITH (PERMEABILITY OR PERMEABL$3) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 6603313 B1

L93: Entry 1 of 2 File: USPT Aug 5, 2003

US-PAT-NO: 6603313
DOCUMENT-IDENTIFIER: US 6603313 B1

TITLE: Remote reservoir resistivity mapping

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Srnka; Leonard J.	Houston	TX		

US-CL-CURRENT: 324/354; 324/359, 702/5

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 2. Document ID: US 3479581 A

L93: Entry 2 of 2 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents

RATIO	2374601
RATIOS	451530
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RESISTIV$5	0
RESISTIV	752
RESISTIVA	8
RESISTIVANCE	1
RESISTIVAY	1
RESISTIVA5	1
(L92 AND ((RESISTIV$5) WITH (RATIO) WITH (PERMEABILITY OR PERMEABL$3))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040140801 A1

L95: Entry 1 of 4 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L95: Entry 2 of 4 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L95: Entry 3 of 4 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 4. Document ID: US 2786178 A

L95: Entry 4 of 4 File: USOC Mar 19, 1957

US-PAT-NO: 2786178
DOCUMENT-IDENTIFIER: US 2786178 A

TITLE: Apparatus for electrical well logging

DATE-ISSUED: March 19, 1957

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANISOTROPY	55853
ANISOTROPIES	1512

ANISOTROPYS	14
RATIO	2374601
RATIOS	451530
ANISOTROPIC$4	0
ANISOTROPIC	103124
ANISOTROPICAFLY	2
ANISOTROPICAHY	1
ANISOTROPICAIIY	1
ANISOTROPICAILY	7
(L92 AND ((ANISOTROPY OR ANISOTROPIC$4) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040140801 A1

L98: Entry 1 of 4 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D.

☐ 2. Document ID: US 20020101235 A1

L98: Entry 2 of 4 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L98: Entry 3 of 4 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 4. Document ID: US 2786178 A

L98: Entry 4 of 4 File: USOC Mar 19, 1957

US-PAT-NO: 2786178
DOCUMENT-IDENTIFIER: US 2786178 A

TITLE: Apparatus for electrical well logging

DATE-ISSUED: March 19, 1957

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANISOTROPY	55853
ANISOTROPIES	1512

ANISOTROPYS	14
RATIO	2374601
RATIOS	451530
ANISOTROPIC$4	0
ANISOTROPIC	103124
ANISOTROPICAFLY	2
ANISOTROPICAHY	1
ANISOTROPICAIIY	1
ANISOTROPICAILY	7
(L97 AND ((ANISOTROPY OR ANISOTROPIC$4) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Search Results - Record(s) 1 through 14 of 14 returned.

☐ 1. Document ID: US 20040140801 A1

L100: Entry 1 of 14 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D.

☐ 2. Document ID: US 20020101235 A1

L100: Entry 2 of 14 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L100: Entry 3 of 14 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 4. Document ID: US 6060886 A

L100: Entry 4 of 14 File: USPT May 9, 2000

US-PAT-NO: 6060886
DOCUMENT-IDENTIFIER: US 6060886 A

TITLE: Radial sounding electrical well logging instrument

DATE-ISSUED: May 9, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabarovsky; Leonty A.	Houston	TX		
Fabris; Antonio	Houston	TX		
Mezzatesta; Alberto G.	Houston	TX		
Itskovich; Gregory B.	Houston	TX		

US-CL-CURRENT: 324/373; 324/366

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 5. Document ID: US 5463549 A

L100: Entry 5 of 14 File: USPT Oct 31, 1995

US-PAT-NO: 5463549
DOCUMENT-IDENTIFIER: US 5463549 A

TITLE: Method and apparatus for determining permeability of subsurface formations

DATE-ISSUED: October 31, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dussan V.; Elizabeth B.	Ridgefield	CT		
Auzerais; Francois M.	Ridgefield	CT		
Anderson; Barbara I.	Brookfield Center	CT		

US-CL-CURRENT: 702/7; 324/339, 324/366, 702/12, 702/9

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D.

☐ 6. Document ID: US 4748415 A

L100: Entry 6 of 14 File: USPT May 31, 1988

US-PAT-NO: 4748415
DOCUMENT-IDENTIFIER: US 4748415 A

TITLE: Methods and apparatus for induction logging in cased boreholes

DATE-ISSUED: May 31, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vail, III; William B.	Bothell	WA		

US-CL-CURRENT: 324/339; 324/346, 324/369

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D.

☐ 7. Document ID: US 3479581 A

L100: Entry 7 of 14 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 8. Document ID: US 2973811 A

L100: Entry 8 of 14 File: USOC Mar 7, 1961

US-PAT-NO: 2973811
DOCUMENT-IDENTIFIER: US 2973811 A

TITLE: Process for detecting underground water

DATE-ISSUED: March 7, 1961

INVENTOR-NAME: ROGERS ALLEN S

US-CL-CURRENT: 166/250.15; 166/254.1, 299/5, 324/323, 324/363

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 9. Document ID: US 2852734 A

L100: Entry 9 of 14 File: USOC Sep 16, 1958

US-PAT-NO: 2852734
DOCUMENT-IDENTIFIER: US 2852734 A

TITLE: Groundwater direction determination

DATE-ISSUED: September 16, 1958

INVENTOR-NAME: JOSENDAL VIRGIL A; STEGEMEIER RICHARD J

US-CL-CURRENT: 324/325, 166/250.01, 324/347

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 10. Document ID: US 2786178 A

L100: Entry 10 of 14 File: USOC Mar 19, 1957

US-PAT-NO: 2786178
DOCUMENT-IDENTIFIER: US 2786178 A

TITLE: Apparatus for electrical well logging

DATE-ISSUED: March 19, 1957

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D.

☐ 11. Document ID: US 2712626 A

L100: Entry 11 of 14 File: USOC Jul 5, 1955

US-PAT-NO: 2712626
DOCUMENT-IDENTIFIER: US 2712626 A

TITLE: Selective spontaneous potential well logging method and apparatus

DATE-ISSUED: July 5, 1955

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/351

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D.

☐ 12. Document ID: US 2592125 A

L100: Entry 12 of 14 File: USOC Apr 8, 1952

US-PAT-NO: 2592125
DOCUMENT-IDENTIFIER: US 2592125 A

TITLE: Method and apparatus for logging static spontaneous potentials in wells

DATE-ISSUED: April 8, 1952

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/351; 324/123R, 324/140R, 324/149

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D.

☐ 13. Document ID: US 2345608 A

L100: Entry 13 of 14 File: USOC Apr 4, 1944

US-PAT-NO: 2345608
DOCUMENT-IDENTIFIER: US 2345608 A

TITLE: Geophysical prospecting

DATE-ISSUED: April 4, 1944

INVENTOR-NAME: LEE FREDERICK W

US-CL-CURRENT: 324/358

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

☐ 14. Document ID: US 2300206 A

L100: Entry 14 of 14 File: USOC Oct 27, 1942

US-PAT-NO: 2300206
DOCUMENT-IDENTIFIER: US 2300206 A

TITLE: Testing well

DATE-ISSUED: October 27, 1942

INVENTOR-NAME: CLARK JOSEPH B

US-CL-CURRENT: 324/325; 73/152.18

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
DETERMIN$4	0
DETERMIN	14292
DETERMINA	2369
DETERMINAA	1
DETERMINAALE	2
DETERMINAAON	1
(L99 AND ((DETERMIN$4 OR CALCULAT$4 OR MEASUR$4) WITH (((HORIZONTAL$2 OR VERTICAL$2 OR TRANSVERS$4 OR LONGITUD$6 OR PARALLEL OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (PERMEABILITY OR PERMEABL$3)) SAME ((HORIZONTAL$2 OR VERTICAL$2 OR TRANSVERS$4 OR LONGITUD$6 OR PARALLEL OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH	14

(RESISTIV$5))))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.

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Hit List

First Hit | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040140801 A1

L101: Entry 1 of 4 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMC | Draw. D

☐ 2. Document ID: US 20020101235 A1

L101: Entry 2 of 4 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D.

☐ 3. Document ID: US 6686736 B2

L101: Entry 3 of 4 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

☐ 4. Document ID: US 2786178 A

L101: Entry 4 of 4 File: USOC Mar 19, 1957

US-PAT-NO: 2786178
DOCUMENT-IDENTIFIER: US 2786178 A

TITLE: Apparatus for electrical well logging

DATE-ISSUED: March 19, 1957

INVENTOR-NAME: HENRI-GEORGES DOLL

US-CL-CURRENT: 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANISOTROPY	55853
ANISOTROPIES	1512

ANISOTROPYS	14
RATIO	2374601
RATIOS	451530
ANISOTROPIC$4	0
ANISOTROPIC	103124
ANISOTROPICAFLY	2
ANISOTROPICAHY	1
ANISOTROPICAIIY	1
ANISOTROPICAILY	7
(L100 AND ((ANISOTROPY OR ANISOTROPIC$4) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Hit List

First Hit | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 20050104596 A1

L105: Entry 1 of 1 File: PGPB May 19, 2005

PGPUB-DOCUMENT-NUMBER: 20050104596
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050104596 A1

TITLE: Method and device for measuring the resistivity anisotropy of layered rock samples

PUBLICATION-DATE: May 19, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Fleury, Marc	La Celle Saint Cloud		FR

US-CL-CURRENT: 324/376

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
(103 NOT 100).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1
(L103 NOT L100).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1

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Hit List

First Hit | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040140801 A1

L108: Entry 1 of 4 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D.

☐ 2. Document ID: US 20020101235 A1

L108: Entry 2 of 4 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D.

☐ 3. Document ID: US 6686736 B2

L108: Entry 3 of 4 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

☐ 4. Document ID: US 3479581 A

L108: Entry 4 of 4 File: USOC Nov 18, 1969

US-PAT-NO: 3479581
DOCUMENT-IDENTIFIER: US 3479581 A

TITLE: VERTICAL RESISTIVITY LOGGING BY MEASURING THE ELECTRIC FIELD CREATED BY A TIME-VARYING MAGNETIC FIELD

DATE-ISSUED: November 18, 1969

INVENTOR-NAME: RUNGE RICHARD J

US-CL-CURRENT: 324/338; 324/366, 324/367

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142

PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L107 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR PARALLEL) WITH (VERTICAL$2 OR LONGITUD$6 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (PERMEABILITY OR PERMEABL$3)) SAME ((HORIZONTAL$2 OR TRANSVERS$4 OR PARALLEL) WITH (VERTICAL$2 OR LONGITUD$6 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (RESISTIV$5)) SAME (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Hit List

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20040140801 A1

L109: Entry 1 of 3 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L109: Entry 2 of 3 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L109: Entry 3 of 3 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANISOTROPY	55853
ANISOTROPIES	1512
ANISOTROPYS	14
RATIO	2374601
RATIOS	451530
ANISOTROPIC$4	0
ANISOTROPIC	103124
ANISOTROPICAFLY	2
ANISOTROPICAHY	1
ANISOTROPICAIIY	1
ANISOTROPICAILY	7
(L108 AND ((ANISOTROPY OR ANISOTROPIC$4) WITH (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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Hit List

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20040140801 A1

L110: Entry 1 of 3 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L110: Entry 2 of 3 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMC | Draw D

☐ 3. Document ID: US 6686736 B2

L110: Entry 3 of 3 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KMC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L103 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME	

((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (RESISTIV$5)) SAME (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20040140801 A1

L113: Entry 1 of 3 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMC | Draw D.

☐ 2. Document ID: US 20020101235 A1

L113: Entry 2 of 3 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6686736 B2

L113: Entry 3 of 3 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267
PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L82 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME	

((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (RESISTIV$5)) SAME (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	3

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040140801 A1

L114: Entry 1 of 4 File: PGPB Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040140801
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040140801 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20020101235 A1

L114: Entry 2 of 4 File: PGPB Aug 1, 2002

PGPUB-DOCUMENT-NUMBER: 20020101235
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020101235 A1

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schoen, Juergen S.	Leoben	TX	AT
Fanini, Otto N.	Houston	TX	US
Georgi, Daniel	Houston		US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D.

☐ 3. Document ID: US 6686736 B2

L114: Entry 3 of 4 File: USPT Feb 3, 2004

US-PAT-NO: 6686736
DOCUMENT-IDENTIFIER: US 6686736 B2

TITLE: Combined characterization and inversion of reservoir parameters from nuclear, NMR and resistivity measurements

DATE-ISSUED: February 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schoen; Juergen S.	Leoben			AT
Fanini; Otto N.	Houston	TX		
Georgi; Daniel	Houston	TX		

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

☐ 4. Document ID: US 3567808 A

L114: Entry 4 of 4 File: USOC Mar 2, 1971

US-PAT-NO: 3567808
DOCUMENT-IDENTIFIER: US 3567808 A

TITLE: PRODUCTION OF LOW DENSITY-HIGH STRENGTH CARBON

DATE-ISSUED: March 2, 1971

INVENTOR-NAME: SMITH MARK J

US-CL-CURRENT: 264/29.7; 423/448

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D.

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
PARALLEL	3379142
PARALLELS	18267

PERMEABILITY	223358
PERMEABILITIES	8924
PERMEABILITYS	4
RATIO	2374601
RATIOS	451530
HORIZONTAL$2	0
HORIZONTAL	2107341
HORIZONTALA	32
HORIZONTALAD	1
(L77 AND (((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (PERMEABILITY OR PERMEABL$3)) SAME ((HORIZONTAL$2 OR TRANSVERS$4 OR ORTHOGONAL$2 OR PERPENDICULAR$2) WITH (VERTICAL$2 OR LONGITUD$6 OR PARALLEL) WITH (RESISTIV$5)) SAME (RATIO))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

There are more results than shown above. Click here to view the entire set.

Display Format: - Change Format

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L114: Entry 4 of 4 File: USOC Mar 2, 1971

DOCUMENT-IDENTIFIER: US 3567808 A
TITLE: PRODUCTION OF LOW DENSITY-HIGH STRENGTH CARBON

OCR Scanned Text (2):
3 heated. The char in its "as baked" condition had a laMiDar structure and a density of ca. 0.25 g./CM.3. The cooled char was reduced to the appropriate particle dimensions for formulatin.- the porous materials by pulverizing in a bammermir and separating by standard screens on a "Rotap" shaker. 70 parts of the 65/200 size particles were blended with 30 parts of a medium No. 30 coal tar pitch for a 5 minute period in a twin- shell[iblender and the resultant blend was mixed in a sigma-blade mixer for 30 minutes. The resultant mixture was crushed in a jaw cr-usher to pass a standard 40-mesh screen. The resulting powder was fabricated into blocks measuring 11/2 in. x 41/2 in. x 6 in. and 3 in. x 33/4 in. x 43/4 in. on a heated platen, molding press usin.- a molding pressure of 3-4 ton/in.2. The molded blocks were packed in a carbonized-sand mixture within silicon carbide sa- - ers and baked in a muffle furnace to 900' C. at 6' C./hr. R.T. to 600' C., 12' C./hr.-600' C. to 900' C., and soaked at 900o C. for 1 hour. At this heatin@ rate the block can be brought up to 900' C. rapidly without cracking due to thermal stress. Slower heating rates can be employed, however this would require excessive furnace time. The optimum heating rate is that which will brin-, the body to teniperature without crackin.- while using the minimum furnace time. The molded blocks had a density of 1.11 g./cc. when green and 1.09 -./cc. wheii baked. The blocks had good dimensional stability and showed sli.@ht shrinkage and had a flexural stren-th of 3700 p.s.i. and a compressive stren,@h of 16,000 p.s.i. The electrical resistivity of the blocks was 581.0 ohiii-in.XJ04 and C.T.E. (coefficient of thermal expansion) of 3.03 X I 0-6 in./in. /' C. parallel and 3.24 perpendicular, and -,t thermal conductivity of 0.0021 cgs. units. Porosity tests of the blocks showed none greater than 100,u; 0.172 cc./g. 100tkIO.06g and 0.231 cc./g. less than 0.06g or a total of 0.403 cc./g. when baked. The porosity indicates that a large proportion of the pores are of the closed or inaccessible type, thereby inhibiting the access of air or other gases into the interior of the body. This type of pore structure produces a more oxidatively stable carbon body because oxidation will only occur on the surface rather than throughout the body. Selected specimeris of the baked products were -raphitized by fur-ther heat treatment to 2750' C. in an induction furnace operated by means of a 40 l@-Howatt, sparkgap induction generator. Graphitizing was performed with a 100' C./hr. heating rate from 900' C. to 2750' C. The rate of heatin- to the graphitization temperature is selected to provide for rapid heating of the block without cracking due to thermal stress while at the same time using a minimum of fi-irnace time. The - raphitized blocks had an apparent density of 1.17 to 1.2Z @./cc., He density of 1.61 g./ce., electrical resistivity of 19.97-22.1 ohm in. X 104, flexure strength of 3034-3245 p.s.i., and compressive strength of 8286-8782, p.s.i.; permeability of 1.46 CM.2 per second; C.T.E. of 4.OJXIO-6 parallel and 3.72XI6-6 perpendicular, and had a thermal conductivity of 0.019 cgs. units. X-raY properties were interlayer space: 3.3807- 3.3880; crystalline size: 1 15-21 1; pref. orient. 20. Porosity of the graphitized blocks showed 0.008 cc./g. greater than IOOA; 0.220 cc./g. 100IL10.06A; and 0.186 cc./,-. less than 0.06,u, or a total of 0.414 cc./-. A porosity examination showed that most pores were of the closed or inaccessible

type. Hardness of the graphitized blocks was 93 on the Rockwell "R!' Scale. In general then, these products possess a -Ood porous structure, insulating properties, and will support much hi.-her compressive loads than porous carbons made with petroleum coke fillers which liave compressive stren.-ths of about 1400-1600 p.s.i. In addition, the pores of the products are mainly of the closed variety in that the free passage of air throtigh the block is highly inhibited. 3,567,808 4 Example II Coconut shells ground to 8 mesh (U.S. sieve series) were carbonized with the exclusion of air in a muffle furnace heated at a rate of 200o C./br. to 900' C. The carbonized residue was @round to pass a 100 mesh (U.S. sieve senes) aiid then blended intimately with ammonium lignin sulfonate (Orzan A) in a 50-50 weight ratio. The blend was combined at room temperature in a- sigma-blade mixer with enough solvent (water, in this case) to form 10 a slurry. The resultant solution-suspension was mixed constantly while the temperature of the, mixture was increased steadily to evaporate the solvent. As the solvent was eliminated the mixture became increasingly viscous-] 5 to the point of actual solidification. Just before-solidifica- t'On occurred, the mixer was discharged and drying was completed by heating in an oven at 110' C. for 12 hours. The dried mixture was broken into nuggets and car- bonized with the exclusion of air in a muffle furnace 20 heated at a rate of 200' C./hr. to 900' C. The resulting residue called a "calcine" was ground to 65/200, 651100 and 35/65 mesh fractions, hereinafter designated Samples A, B and C respectively. Each of these samples was mixed with an appropriate quantity of No. 30 medium 25 coal tar pitch. (Quantities were 30%, 30% and 20% for Samples A, B and C respectively.) Each combination was mixed thorou.-hly at 140' C., granulated in a jaw crusher to pass a standard 40-mesh screen and molded into 41/2 in. x 6 in. rectangular blocks about 3 in. thick on a heated- platen molding press using a molding pressure of 3-4 tons/in.2. The molded blocks were packed in a carbonized-sand mixture within silicon carbide saggers and baked in a iiiuffle furnace at the following baking schedule: 3' 35 C./hr.-R.T. to 600' C., 66' C./hr.-600' C. to 900' C., with a soak at 900' C. for I hr. Selected specimens of the baked blocks were graphitized by further heat treatment to 2750' C. in an induction furnace at a 100' C./hr. heating rate from 900' C. to 2750' C. Specimens were 40 cut from the baked or carbonized blocks (designated Samples AC, BC and CC) and graphitized blocks (designated Samples AG, BG and CG) and characterized according to established testing procedures. The properties of these specimens are summarized in Table I. 45 The pore volume of Sample A, carbonized and graphi- tized, and the X-ray properties graphitized of Samples A, B and C were determined and are summarized in Table 11. The data in Table 11 clearly shows that two related 50 types of low density-high strength carbon and graphite molded materials have been prepared from economical and readily available matcrials. Both products, in either the carbon or graphite forms, possess uniqtie properties such as: a high strength-weight ratio; a low thermal con- 55 ductivity; a C.T.E. of nearly unity in the graphitized state; and a hi.-h closed pore volume in both states. Samples AG, BG and CG have essentially all closed pores since the porosity could not be measured by the testing technique employed. 60 The density of the carbonized and graphitized material produced through the process of the present invention is substantially lower than that usually associated with carbon materials of high compressive strength. The apparent density of materials produced through the process are 65 below 1.3 g./cc. while the compressive strength is in excess of 5,000 p.s.i. In order to approach this same compressive strength with conventional carbon or graphite material the density is asually in the range of 1.5 to 1.8 g./cc. 70 The character of the properties demonstrates that these low density materials adequately fulfill the requirements for use in high temperature furnaces for producing ceramics and graphites by hot molding techniques. Many other uses are suggested such as high temperature insula- 75 tion, refractory brick, radiation shields, .s well as any

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